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STATE OF COLORADO

COLORADO DEPARTMENT OF HEALTH

Dedicated to protecting and improving the health and environment of the people of Colorado

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Roy Romer
Governor

Patricia A. Nolan, MD, MPH
Executive Director

September 13, 1993

Mr. Richard J. Schassburger
U.S Department of Energy
Rocky Flats Plant, Building 116
P. O. Box 928
Golden, Colorado 80402-0928

RE: PNL (R. O. Gilbert) Letter Report - Statistical Methods for the Comparison of Remedial Investigation Data to Background Data at Rocky Flats Plant

Dear Mr. Schassburger,

The Colorado Department of Health, Hazardous Materials and Waste Management Division (the Division), has reviewed the above referenced letter report. The Division remains fully supportive of the use of Dr. Gilbert as the designated expert in this field and supports his recommendations of appropriate statistical methods for comparison of site remedial investigation data to background data at the Rocky Flats Plant.


In developing a "strawman" methodology to implement Dr. Gilbert's recommendations the Division offers the following comments to DOE for consideration:

- 1) The Division would like to emphasize the importance of effective graphical presentation of data to enhance the understanding and interpretation of the statistical tests. The Division believes that the development of effective graphical procedures to display and interpret both site and background data is essential to the usefulness of the methodology and should not be overlooked or down played. The Division requests that specific graphical techniques be developed and included in the "strawman" methodology.
- 2) The Division does not recommend the use of a risk based hot measurement comparison value in the hot measurement comparison. The use of risk based decisions is not appropriate in the context of comparisons to background.
- 3) As noted in Dr. Gilbert's report, the proper treatment of non-detects and multiple detection limits is critical to the implementation of his recommendations. Both of these issues occur frequently in Rocky Flats data sets. Therefore, the Division recommends that DOE emphasize specific protocol for proper treatment of non-detects and multiple detection limits in the "strawman" methodology.
- 4) The Division agrees with Dr. Gilbert that professional judgement is necessary in evaluating the results of statistical tests. However, it is not the Divisions intention that professional judgement be a substitute for an inadequate site investigation or as a tool to dismiss dubious data. The scope of appropriate professional judgement and limitations on its application should be outlined in the "strawman" methodology. Guidelines and criteria for making decisions based on professional judgement should also be identified.

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The Division hopes that these comments are helpful in developing the "strawman" methodology for implementing Dr. Gilbert's recommendations. If you have any questions or comments, please contact Joe Schieffelin or Jeff Swanson of my staff at 692-3356 or 692-3416, respectively.

Sincerely,

A handwritten signature in cursive script, reading "Gary W. Baughman". The signature is written in dark ink and is positioned above the typed name and title.

Gary W. Baughman, Chief
Facilities Section
Hazardous Waste Control Program

cc: Martin Hestmark, EPA
Bruce Thatcher, DOE
Jackie Berardini, CDH-OE
Dan Miller, AGO